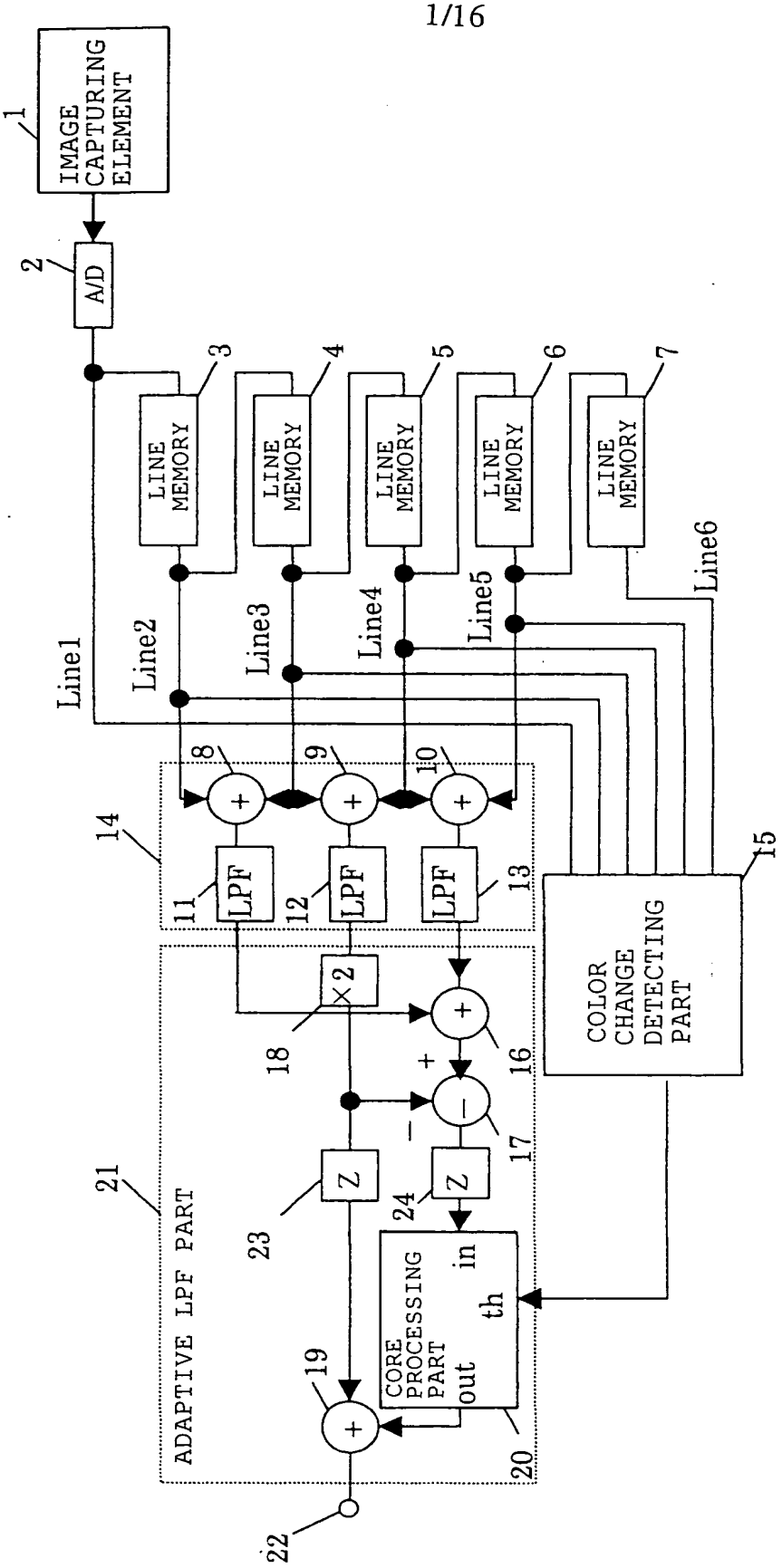
IMAGE CAPTURING ELEMENT
1
A/D
2
LINE MEMORY
3
4
5
6
7
Line1
Line2
Line3
Line4
Line5
Line6
8
9
10
+
14
LPF
11
12
13
15
COLOR CHANGE DETECTING PART
×2
18
16
17
Z
23
24
21
ADAPTIVE LPF PART
CORE PROCESSING PART
in
th
out
19
20
22

Fig. 1

Fig. 2

Mg	Gr
Ye	Cy
Gr	Mg
Ye	Cy

Fig. 3

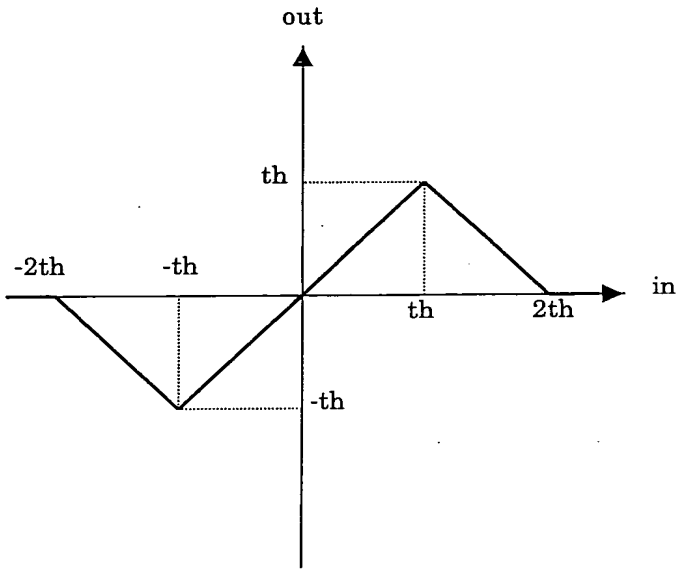

Fig. 4

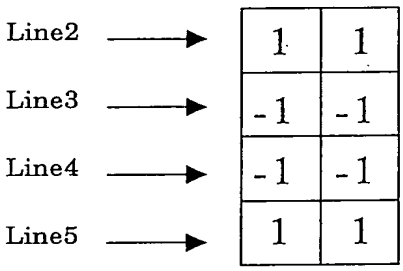

Fig. 5 (a)

Line2 →	0	0
Line3 →	2	2
Line4 →	2	2
Line5 →	0	0

WHERE 2×th < |in| IS SATISFIED

Fig. 5 (b)

Line2 →	1/3	1/3
Line3 →	5/3	5/3
Line4 →	5/3	5/3
Line5 →	1/3	1/3

WHERE |in| = 1.5×th IS SATISFIED

Fig. 5 (c)

Line2 →	1	1
Line3 →	1	1
Line4 →	1	1
Line5 →	1	1

WHERE |in| < th IS SATISFIED

Fig. 6

	m-2	m-1	m	m+1	m+2	m+3
n-2	Gr (m-2, n-2)	Mg (m-1, n-2)	Gr (m, n-2)	Mg (m+1, n-2)	Gr (m+2, n-2)	Mg (m+3, n-2)
n-1	Ye (m-2, n-1)	Cy (m-1, n-1)	Ye (m, n-1)	Cy (m+1, n-1)	Ye (m+2, n-1)	Cy (m+3, n-1)
n	Mg (m-2, n)	Gr (m-1, n)	Mg (m,n)	Gr (m+1, n)	Mg (m+2, n)	Gr (m+3, n)
n+1	Ye (m-2, n+1)	Cy (m-1, n+1)	Ye (m, n+1)	Cy (m+1, n+1)	Ye (m+2, n+1)	Cy (m+3, n+1)
n+2	Gr (m-2, n+2)	Mg (m-1 ,n+2)	Gr (m, n+2)	Mg (m+1, n+2)	Gr (m+2, n+2)	Mg (m+3, n+2)
n+3	Ye (m-2, n+3)	Cy (m-1, n+3)	Ye (m, n+3)	Cy (m+1, n+3)	Ye (m+2, n+3)	Cy (m+3, n+3)

Fig. 7

	m-2	m-1	m	m+1	m+2	m+3
n-2	0	1	0	0	0	0
n-1	1	0	1	0	0	0
n	1	0	1	0	0	0
n+1	1	0	1	0	0	0
n+2	0	1	0	0	0	0
n+3	1	0	1	0	0	0

Mg=1,
Gr=0,
Ye=1,
Cy=0

Mg=0,
Gr=0,
Ye=0,
Cy=0

Fig. 8

	m-2	m-1	m	m+1	m+2	m+3
n-2	G0	M0	G1	M2	G3	M3
n-1	Y0	C0	Y1	C2	Y3	C3
n	M0	G0	M1	G2	M3	G3
n+1	Y0	C0	Y1	C2	Y3	C3
n+2	G0	M0	G1	M2	G3	M3
n+3	Y0	C0	Y1	C2	Y3	C3

Mg=M0	Mg=M1	Mg=M2	Mg=M3
Gr=G0	Gr=G1	Gr=G2	Gr=G3
Ye=Y0	Ye=Y1	Ye=Y2	Ye=Y3
Cy=C0	Cy=C1	Cy=C2	Cy=C3

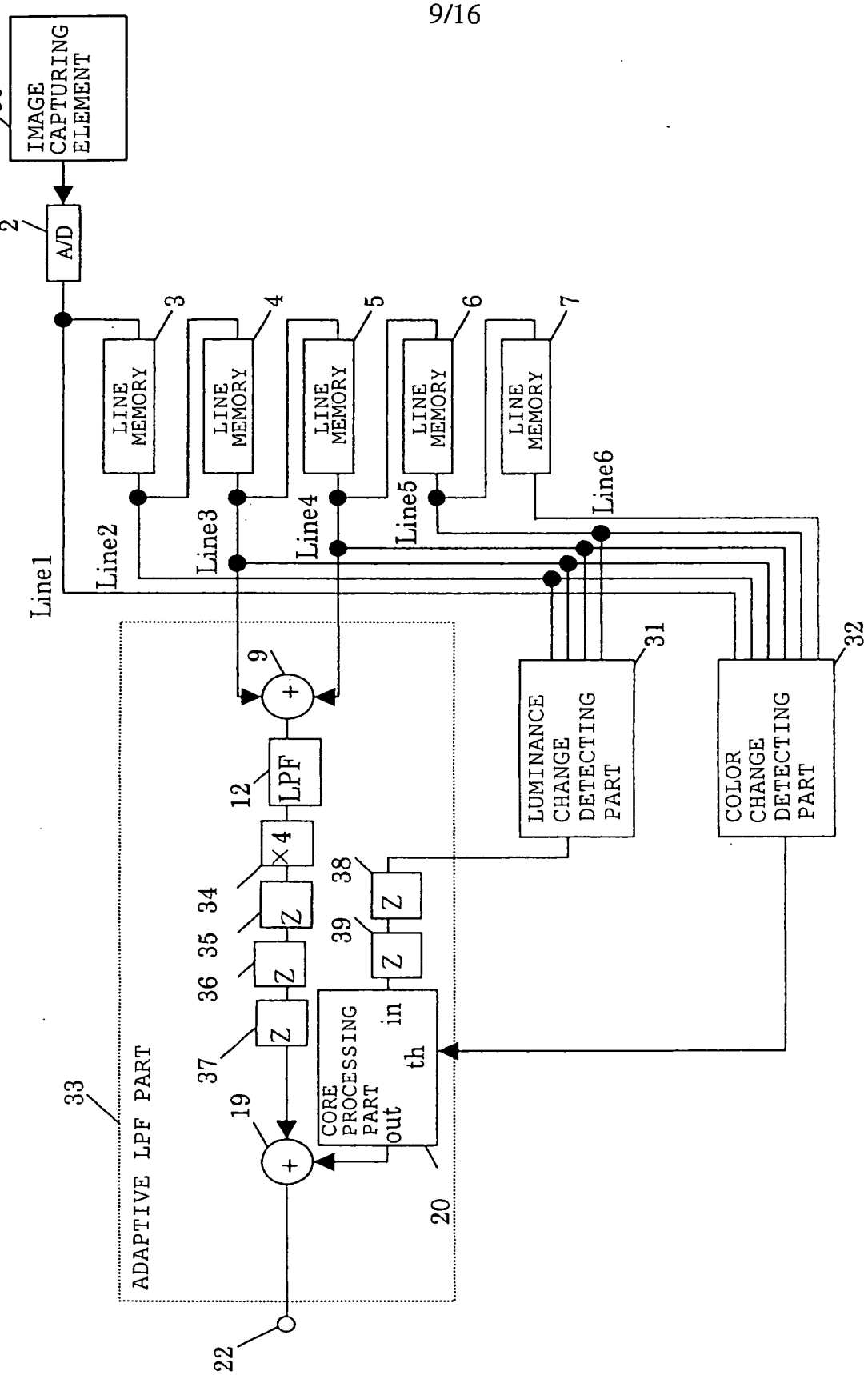
30
IMAGE CAPTURING ELEMENT
2
A/D
3
4
5
6
7
LINE MEMORY
LINE MEMORY
LINE MEMORY
LINE MEMORY
LINE MEMORY
Line1
Line2
Line3
Line4
Line5
Line6
9
+
12
LPF
×4
34
35
36
37
38
39
Z
Z
Z
Z
Z
Z
19
+
CORE PROCESSING PART
in
th
out
20
33
ADAPTIVE LPF PART
22
31
LUMINANCE CHANGE DETECTING PART
32
COLOR CHANGE DETECTING PART

Fig. 9

Fig. 10

R	Gr
Gr	B

Fig. 11

	m-2	m-1	m	m+1	m+2	m+3
n-2	Gr (m-2, n-2)	R (m-1,n-2)	Gr (m,n-2)	R (m+1,n-2)	Gr (m+2,n-2)	R (m+3,n-2)
n-1	B (m-2,n-1)	Gr (m-1,n-1)	B (m,n-1)	Gr (m+1,n-1)	B (m+2,n-1)	Gr (m+3,n-1)
n	Gr (m-2,n)	R (m-1,n)	Gr(m,n)	R (m+1,n)	Gr (m+2,n)	R (m+3,n)
n+1	B (m-2,n+1)	Gr (m-1,n+1)	B (m,n+1)	Gr(m+1, n+1)	B (m+2,n+1)	Gr (m+3,n+1)
n+2	Gr (m-2,n+2)	R (m-1,n+2)	Gr (m,n+2)	R (m+1,n+2)	Gr (m+2,n+2)	R (m+3,n+2)
n+3	B (m-2,n+3)	Gr (m-1,n+3)	B (m,n+3)	Gr (m+1,n+3)	B (m+2,n+3)	Gr (m+3,n+3)

Fig. 12

R=0,
Gr=0,
B=1

	m-2	m-1	m	m+1	m+2	m+3
n-2	0	0	0	0	0	0
n-1	0	0	1	0	1	0
n	0	1	0	0	0	0
n+1	0	0	0	0	1	0
n+2	0	1	0	1	0	0
n+3	0	0	0	0	0	0

R=1,
Gr=0,
B=0

Fig. 13 (a)

Line2 →	0	1	0	0
Line3 →	1	0	-2	0
Line4 →	0	-2	0	1
Line5 →	0	0	1	0

Fig. 13 (b)

Line2 →	0	0	1	0
Line3 →	0	-2	0	1
Line4 →	1	0	-2	0
Line5 →	0	1	0	0

Fig. 14

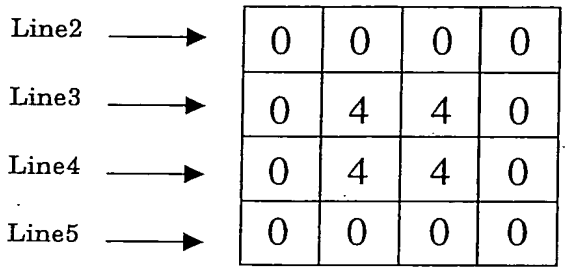

Fig. 15 (a)

Line2 →	0	0	0	0
Line3 →	0	4	4	0
Line4 →	0	4	4	0
Line5 →	0	0	0	0

WHERE 2×th < |in| IS SATISFIED

Fig. 15 (b)

Line2 →	0	1/3	0	0
Line3 →	1/3	4	10/3	0
Line4 →	0	10/3	4	1/3
Line5 →	0	0	1/3	0

WHERE |in| = 1.5×th IS SATISFIED

Fig. 15 (c)

Line2 →	0	0	1/3	0
Line3 →	0	10/3	4	1/3
Line4 →	1/3	4	10/3	0
Line5 →	0	1/3	0	0

WHERE |in| = 1.5×th IS SATISFIED

Fig. 15 (d)

Line2 →	0	1	0	0
Line3 →	1	4	2	0
Line4 →	0	2	4	1
Line5 →	0	0	1	0

WHERE |in| ≦ th IS SATISFIED

Fig. 15 (e)

Line2 →	0	0	1	0
Line3 →	0	2	4	1
Line4 →	1	4	2	0
Line5 →	0	1	0	0

WHERE |in| ≦ th IS SATISFIED

Fig. 16 (a)

0	0	0	0	0	1	0	1
0	0	0	0	-1	0	-1	0
0	-1	0	-1	0	0	0	0
1	0	1	0	0	0	0	0

Fig. 16 (b)

0	0	0	0	1	0	1	0
0	0	0	0	0	-1	0	-1
-1	0	-1	0	0	0	0	0
0	1	0	1	0	0	0	0

Fig. 16 (c)

0	1	0	1	0	0	0	0
-1	0	-1	0	0	0	0	0
0	0	0	0	0	-1	0	-1
0	0	0	0	1	0	1	0

Fig. 16 (d)

1	0	1	0	0	0	0	0
0	-1	0	-1	0	0	0	0
0	0	0	0	-1	0	-1	0
0	0	0	0	0	1	0	1